

Abstract Submitted
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On-orbit instrument calibration of CALET¹ AMIR JAVAID, Department of Physics and Astronomy, Louisiana State University, FOR THE CALET COLLABORATION — The CALorimetric Electron Telescope (CALET) is a high-energy cosmic ray experiment which will be placed on the International Space Station in 2015. Primary goals of CALET are measurement of cosmic ray electron spectra from 1 GeV to 20 TeV, gamma rays from 10 GeV to 10 TeV, and protons and nuclei from 10 GeV up to 1000 TeV. The detector consists of three main components: a Charge Detector (CHD), Imaging Calorimeter (IMC), and Total Absorption Calorimeter (TASC). As CALET is going to work in the ISS orbit space environment, it needs to be calibrated while it is in orbit. Penetrating non-showering protons and helium nuclei are prime candidates for instrument calibration, as they provide a known energy signal for calibrating the detector response. In the present paper, we discuss estimation of CALET's detector efficiency to protons and helium nuclei. Included is a discussion of different galactic cosmic ray and trapped proton models used for flux calculation and simulations performed for detector geometric area and trigger rate calculation. This paper also discusses the importance of the albedo proton flux for the CALET detector calibration.

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